

ACAP June 7 2007

Dart Aerospace Ltd.

Date: Wednesday, 5/23/2007 4:10:56 PM
User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : GPS RECEIVER HOUSING
Job Number : 32536
Estimate Number : 12492
P.O. Number : N/A Part Number : D35143
This Issue : 5/23/2007 S.O. No. N/A Drawing Number : UNDER REVIEW 07.05.29
Prsht Rev. : NC Project Number : N/A
First Issue : N/A Type : SMALL /MED FAB Drawing Revision : N/A
Previous Run : 28418 Material : N/A
Written By : Due Date : 5/30/2007 Qty: 4 Um: Each
Checked & Approved By : 07.05.29
Comment : Est Rev:A New Issue 06-07-26 JLM

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M6061T6S040 6061-T6 .040 Sheet



Comment: Qty.: 0.4812 sf(s)/Unit Total : 1.9249 sf(s)

6061-T6 .040 Sheet

(M6061T6S040)

Batch: M02723

ml 0105 29

(4)

2.0 WATER JET FLOW WATER JET



Comment: FLOW WATER JET

1-Cut as per Dwg D3514

Dwg Rev: Prel

Prog Rev: Prel

ml 0105 29

(4)

Ensure Grain Direction is correct**

2-Deburr if necessary

3.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



ml 0105 29



(4)

Comment: INSPECT PARTS AS THEY COME OFF MACHINE

4.0 QC8 SECOND CHECK



07.05.29 (4)



Comment: SECOND CHECK

5.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

Countersink as per Dwg D3514

FF 07-05-30

3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: 12 Date: 07/05/13
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 5/23/2007 4:10:56 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: GPS RECEIVER HOUSING

Job Number: 32536

Part Number: D35143

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

SB 07/05/30 (4)

7.0

BRAKE NC

NC BRAKE



Comment: NC BRAKE

Form as per Dwg D3514

SB 07/05/30 (4)

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

705.30 (4)

9.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SB 07-05-30 (4)

10.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

U ml 07/05/30 x4

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

GA x3 ml 07/05/30 ENG APPROVAL CB 07.05.31

12.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

ST 144 7/5/30 SB 07/05/31 (4)

Job Completion



U 7-05-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

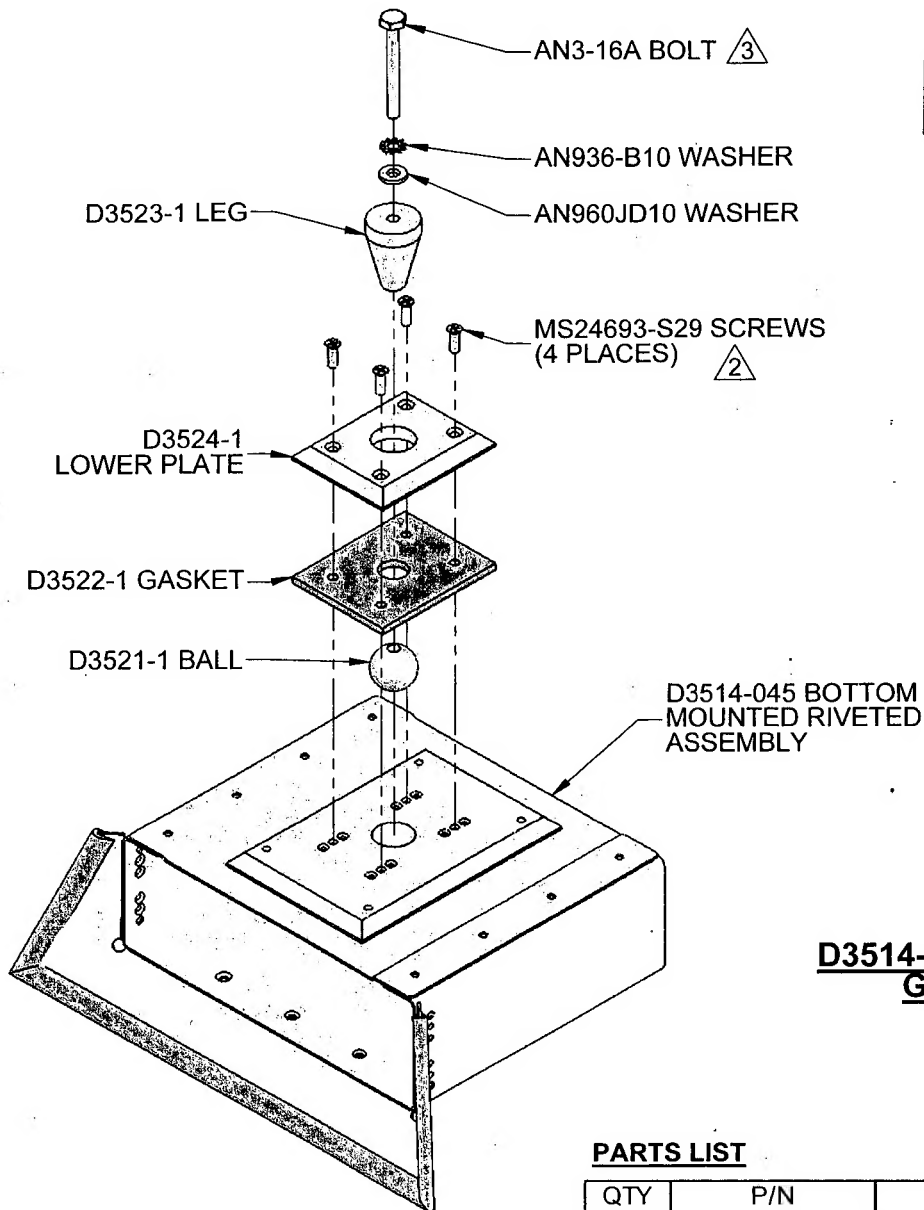
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DESIGN CB	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED	DRAWING NO. D3514	REV. A SHEET 1 OF 9
DATE 07.01.10	TITLE GPS RECEIVER HOUSING		SCALE 1:3



PRELIMINARY ISSUE

UNDER REVIEW
07.05.24CB

D3514-041 BOTTOM MOUNTED GIMBAL ASSEMBLY

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WITHOUT NOTICE
WORK ORDER
32536

PARTS LIST

QTY	P/N	DESCRIPTION
X	D3514-041	BOTTOM MOUNTED GIMBAL ASSEMBLY
1	D3514-045	BOTTOM MOUNTED HOUSING ASSEMBLY
1	D3521-1	BALL
1	D3522-1	GASKET
1	D3523-1	LEG
1	D3524-1	LOWER PLATE
1	AN3-16A	BOLT
1	AN936-B10	WASHER
1	AN960JD10	WASHER
4	MS24693-S29	SCREWS

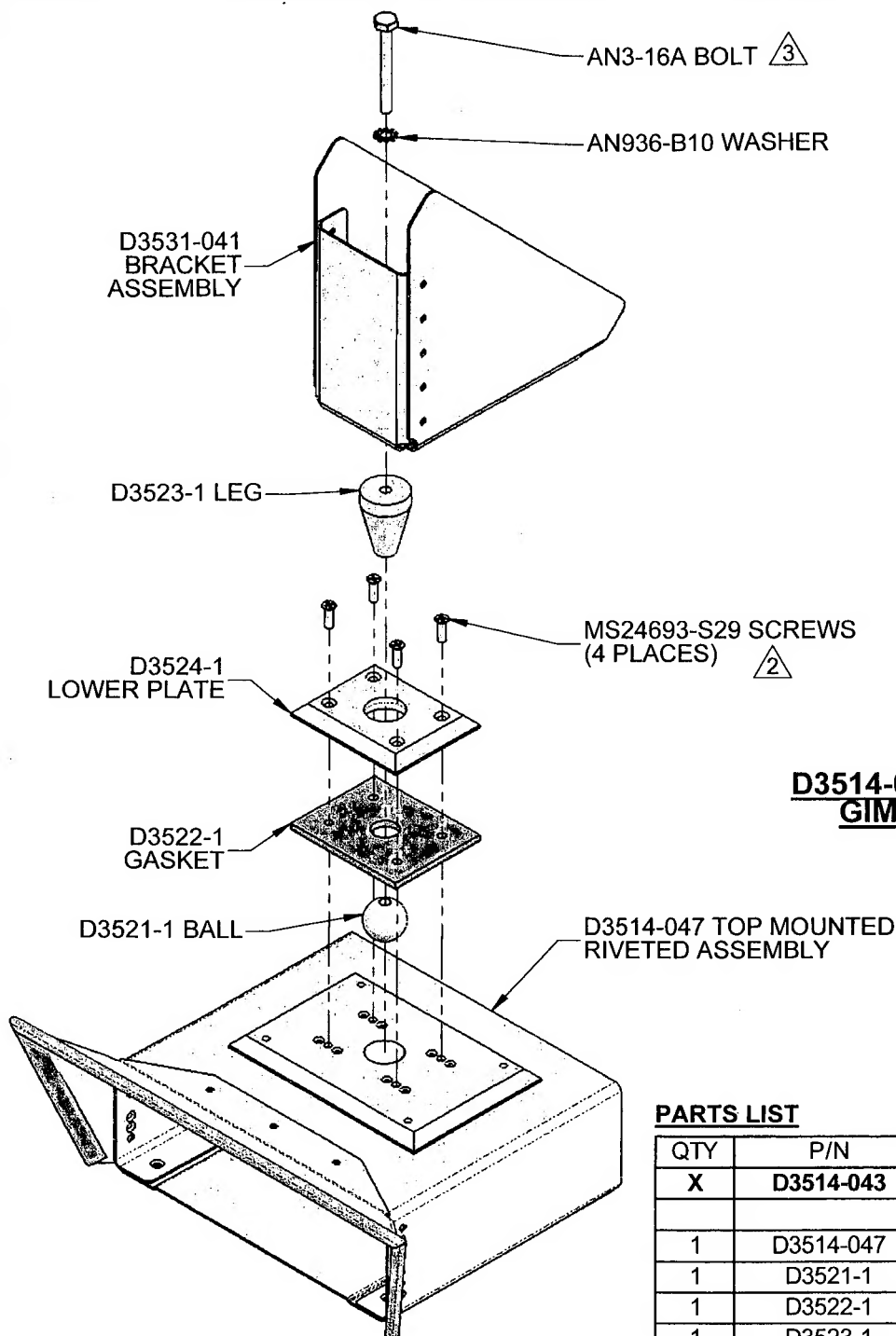
NOTE:

- 1) ASSEMBLE PER DART QSI 003
- 2) TORQUE SCREWS TO 5-6 in-lbs
- 3) TIGHTEN TO SNUG FIT ONLY
- 4) IDENTIFY WITH DART P/N "D3514-041" USING A WHITE MARKER

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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:3



PRELIMINARY ISSUE

UNDER REVIEW

07.05.24CB

**D3514-043 TOP MOUNTED
GIMBAL ASSEMBLY**

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32536
NO.

PARTS LIST

QTY	P/N	DESCRIPTION
X	D3514-043	TOP MOUNTED GIMBAL ASSEMBLY
1	D3514-047	TOP MOUNTED HOUSING ASSEMBLY
1	D3521-1	BALL
1	D3522-1	GASKET
1	D3523-1	LEG
1	D3524-1	LOWER PLATE
1	D3531-041	BRACKET ASSEMBLY
1	AN3-16A	BOLT
1	AN936-B10	WASHER
4	MS24693-S29	SCREWS

NOTE:

- 1) ASSEMBLE PER DART QSI 003
- 2) TORQUE SCREWS TO 5-6 in-lbs
- 3) TORQUE BOLTS TO 15-25 in-lbs
- 4) IDENTIFY WITH DART P/N "D3514-043" USING A WHITE MARKER

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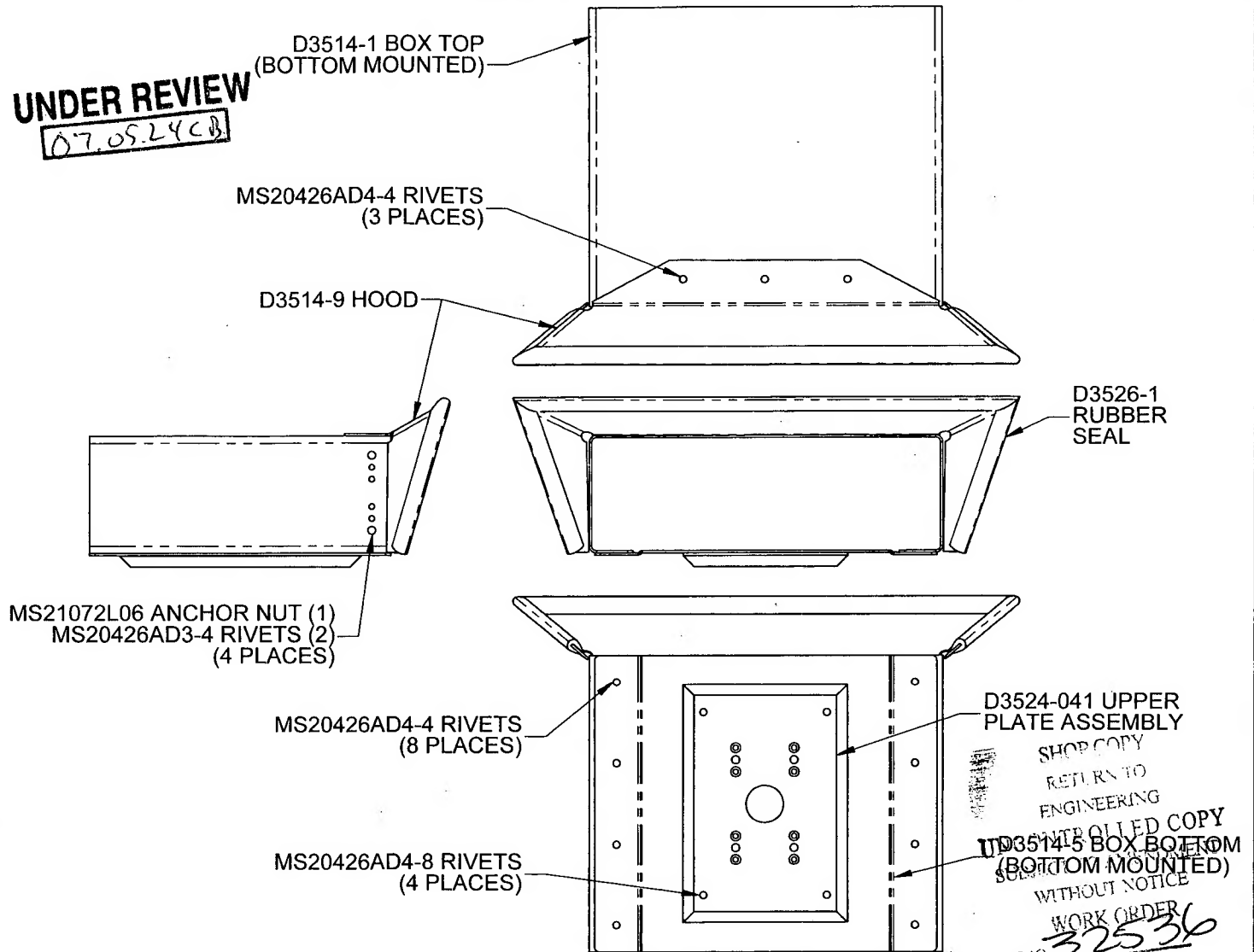
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PRELIMINARY ISSUE

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CHECKED PH	APPROVED	DRAWING NO. D3514	REV. A SHEET 3 OF 9
DATE 07.01.10	TITLE GPS RECEIVER HOUSING		SCALE 1:3
REV A	DATE 07.01.10	DESCRIPTION NEW ISSUE	

UNDER REVIEW

07.05.24CB



D3514-045 BOTTOM MOUNTED HOUSING ASSEMBLY

NOTES:

- 1) POWDER COAT ASSEMBLY BLACK SANDTEX (4.3.5.7) PER DART QSI 005 4.3.
- 2) ASSEMBLE PER DART QSI 003

PARTS LIST

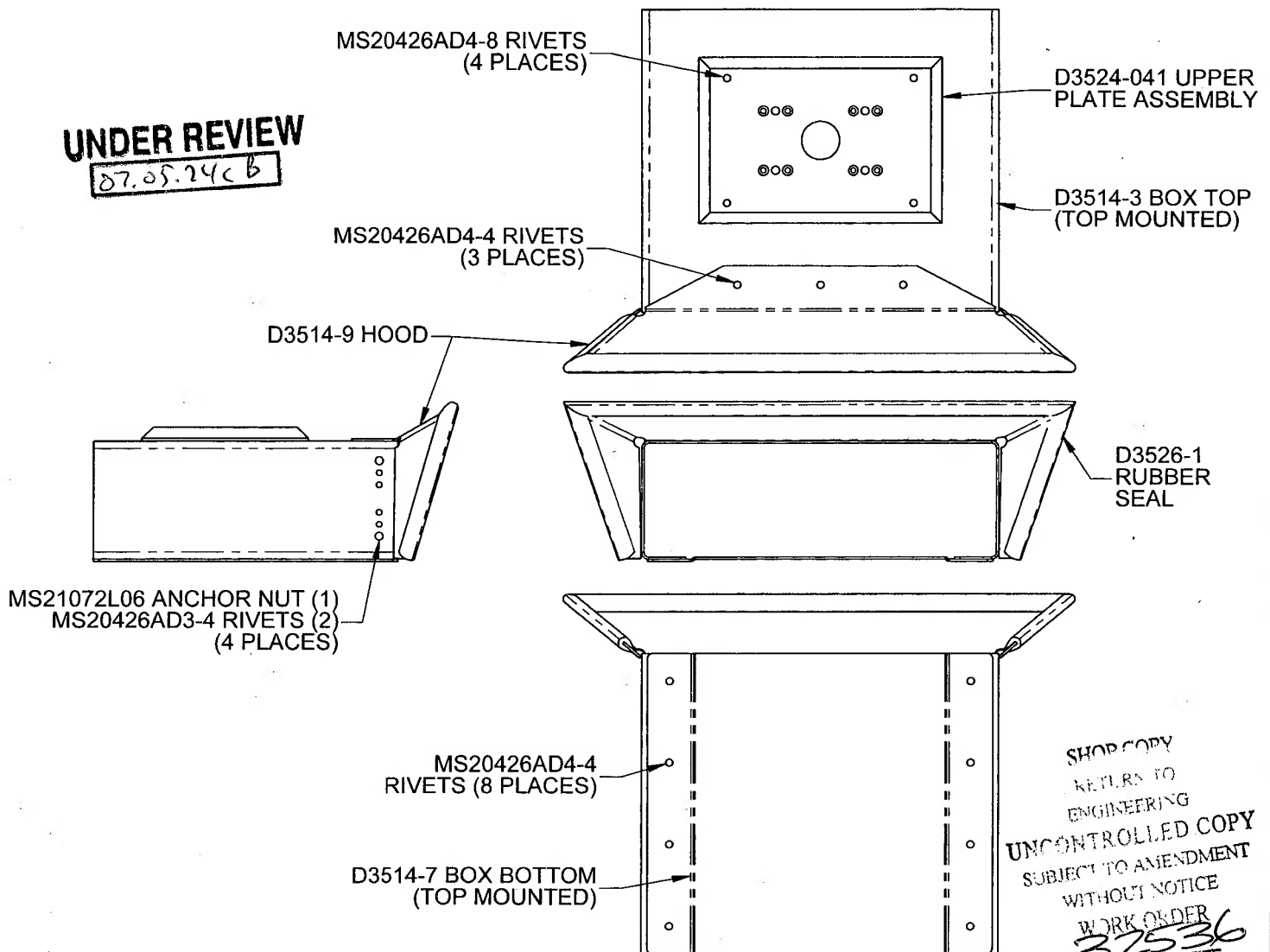
QTY	P/N	DESCRIPTION
X	D3514-045	BOTTOM MOUNTED HOUSING ASSEMBLY
1	D3514-1	BOX TOP (BOTTOM MOUNTED)
1	D3514-5	BOX BOTTOM (BOTTOM MOUNTED)
1	D3514-9	HOOD
1	D3524-041	UPPER PLATE ASSEMBLY
1	D3526-1	RUBBER SEAL
8	MS20426AD3-4	RIVET
11	MS20426AD4-4	RIVET
4	MS20426AD4-8	RIVET
4	MS21072L06	ANCHOR NUT

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**D3514-047 TOP MOUNTED
HOUSING ASSEMBLY**

NOTES:

- 1) POWDER COAT ASSEMBLY BLACK
SANDTEX (4.3.5.7) PER DART QSI 005 4.3.
- 2) ASSEMBLE PER DART QSI 003

PARTS LIST

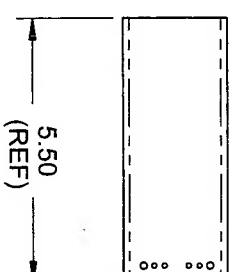
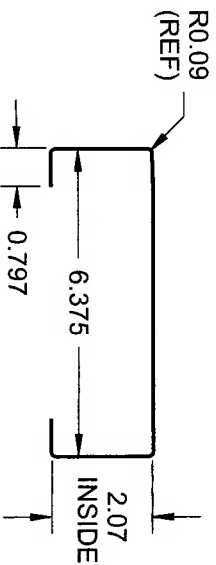
QTY	P/N	DESCRIPTION
X	D3514-047	TOP MOUNTED HOUSING ASSEMBLY
1	D3514-3	BOX TOP (TOP MOUNTED)
1	D3514-7	BOX BOTTOM (TOP MOUNTED)
1	D3514-9	HOOD
1	D3524-041	UPPER PLATE ASSEMBLY
1	D3526-1	RUBBER SEAL
8	MS20426AD3-4	RIVET
11	MS20426AD4-4	RIVET
4	MS20426AD4-8	RIVET
4	MS21072L06	ANCHOR NUT

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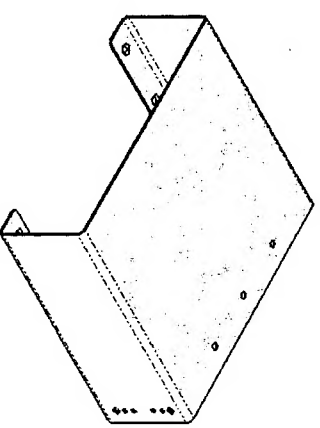
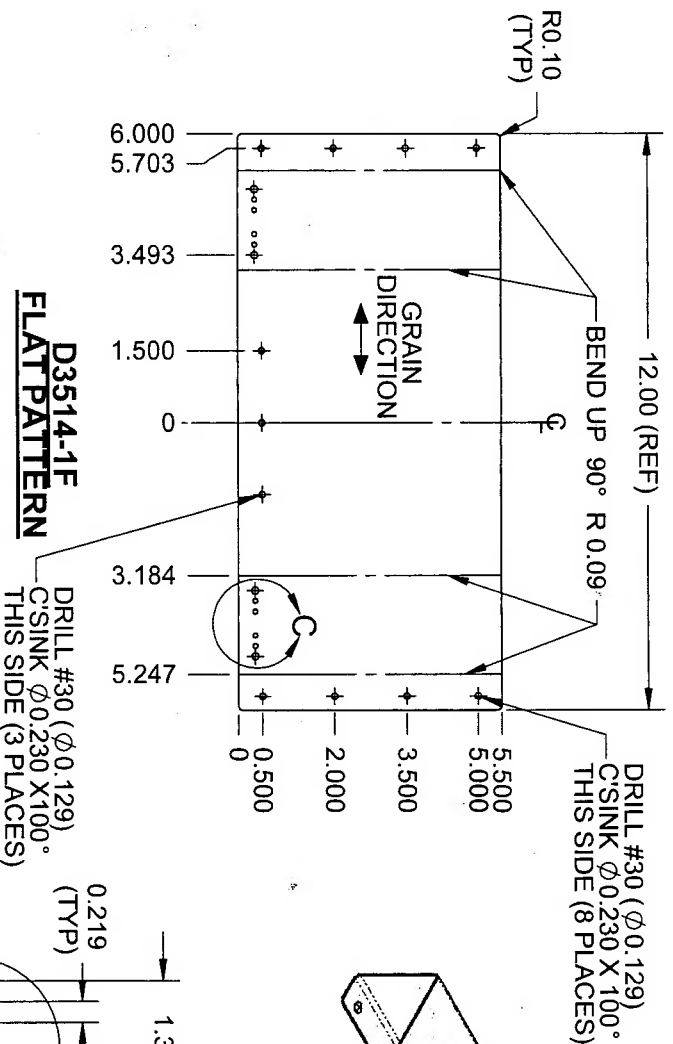
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DATE 07.01.10	TITLE GPS RECEIVER HOUSING	REV. A SHEET 5 OF 9
	SCALE 1:4	



D3514-1 BEND DETAIL



UNDER REVIEW

07.05.24CB

D3514-1 BOX TOP (BOTTOM MOUNTED)

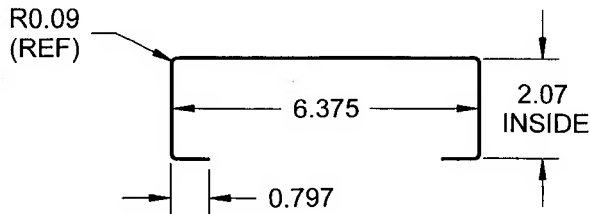


- NOTES:
- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
 - 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
 - 6) PART IS SYMMETRIC ABOUT C
 - 7) C/SINKS ARE ON THE INSIDE OF PART (AFTER BENDING)

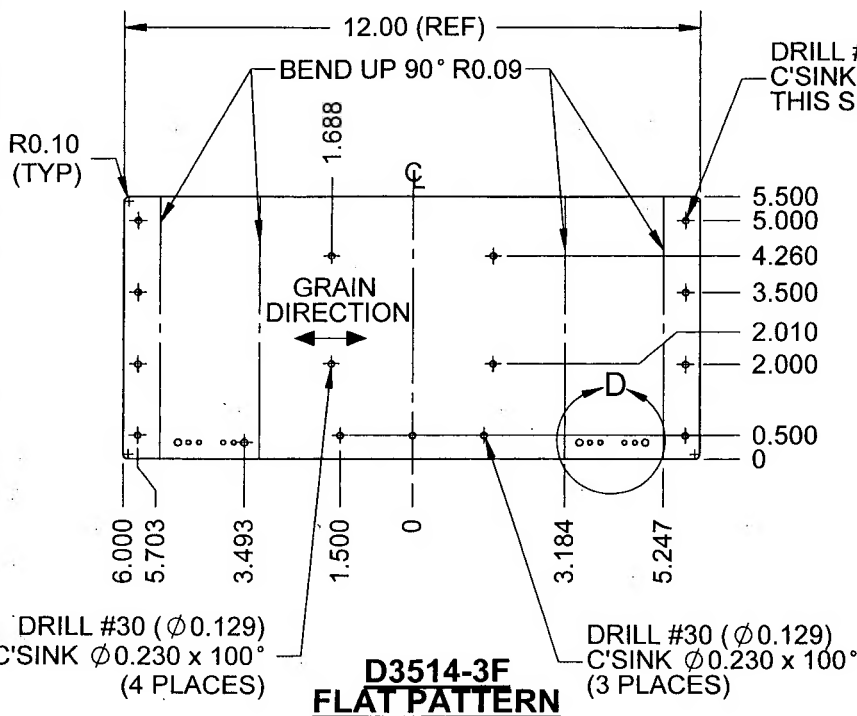
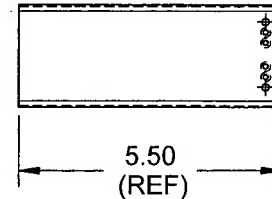
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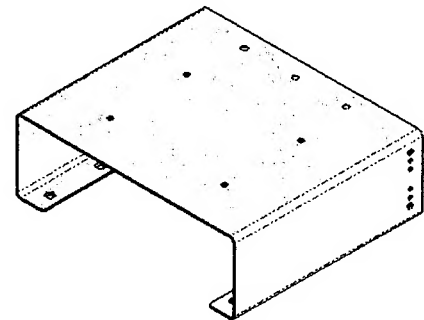
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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:4



**D3514-3
BEND DETAIL**

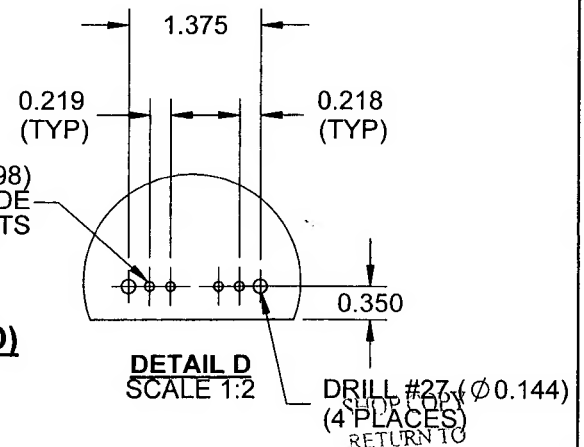


**D3514-3F
FLAT PATTERN**



UNDER REVIEW
07.05.14 CB

D3514-3 BOX TOP (TOP MOUNTED)



NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT ϕ
- 7) C'SINKS ARE ON THE INSIDE OF PART (AFTER BENDING)

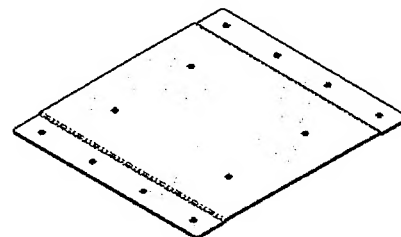
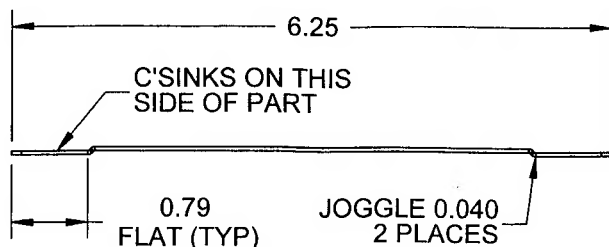
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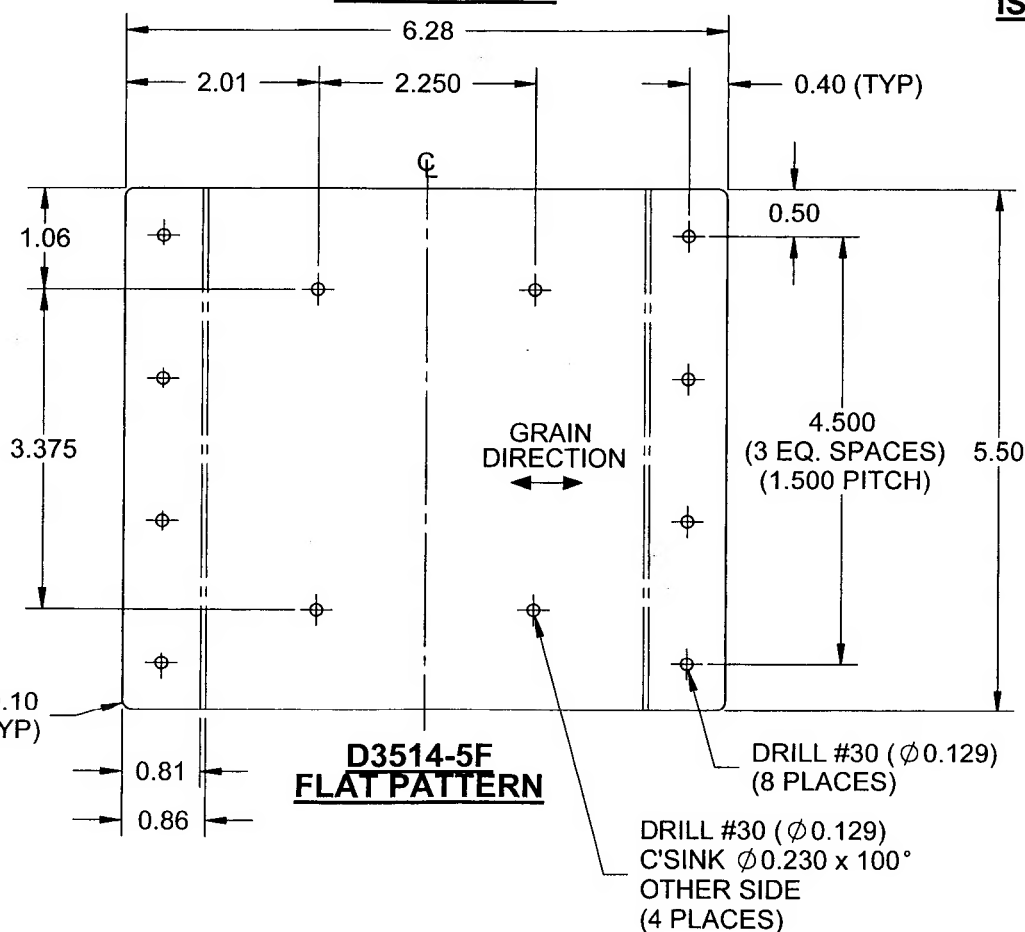
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DATE 07.01.10	TITLE GPS RECEIVER HOUSING SCALE 1:2		



ISOMETRIC VIEW
SCALE 1:4

**D3514-5
BEND DETAIL**



UNDER REVIEW
07.05.24CB

**D3514-5F
FLAT PATTERN**

D3514-5 BOX BOTTOM (BOTTOM MOUNTED)

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT ϕ
- 7) C'SINK BELOW JOGGLE

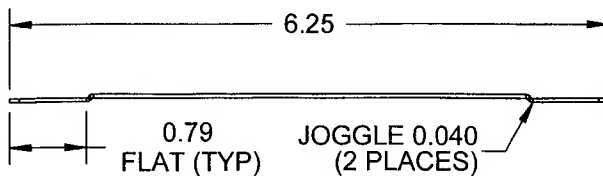
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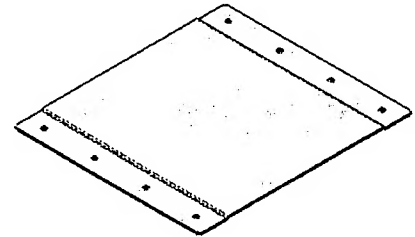
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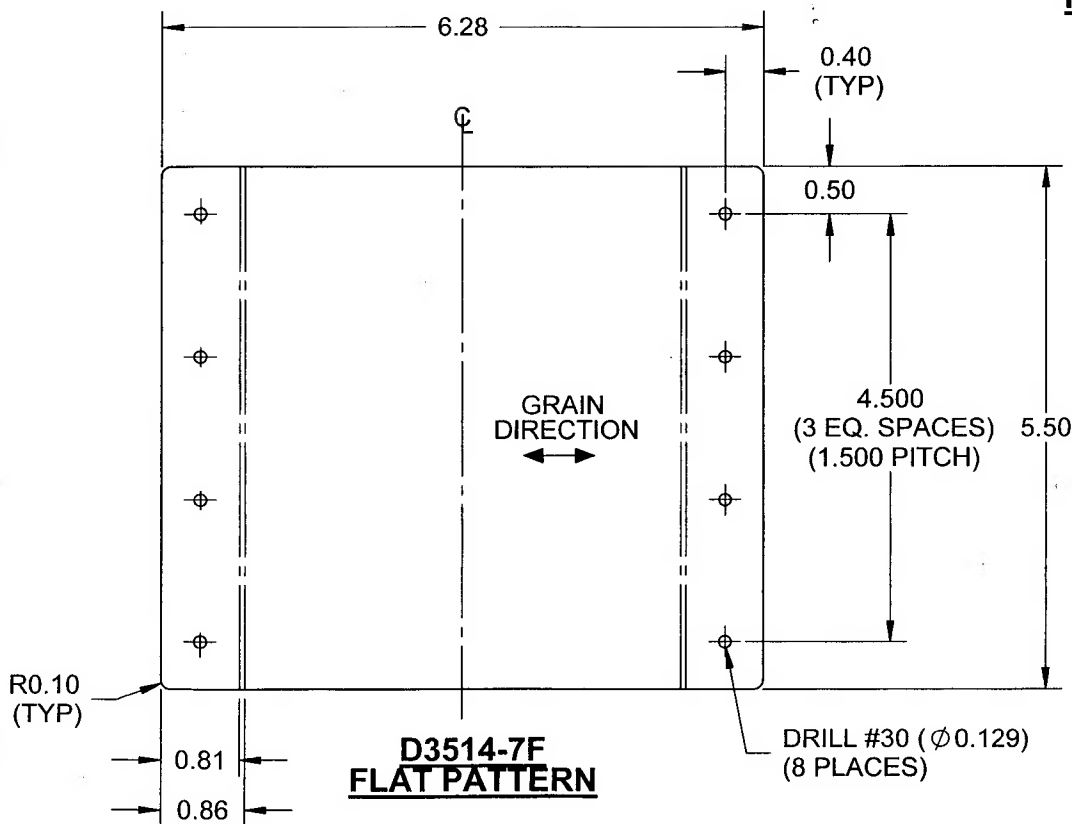
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CHECKED PH	APPROVED [Signature]	DRAWING NO. D3514	REV. A SHEET 8 OF 9
DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:2



**D3514-7
BEND DETAIL**



**ISOMETRIC VIEW
SCALE 1:4**



**D3514-7F
FLAT PATTERN**

UNDER REVIEW
07.05.2010

D3514-7 BOX BOTTOM (TOP MOUNTED)

NOTES:

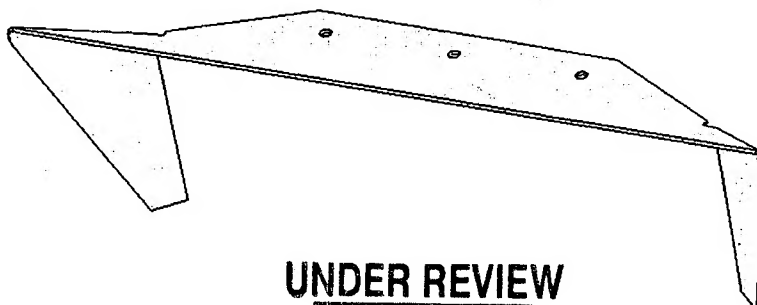
- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT ϕ

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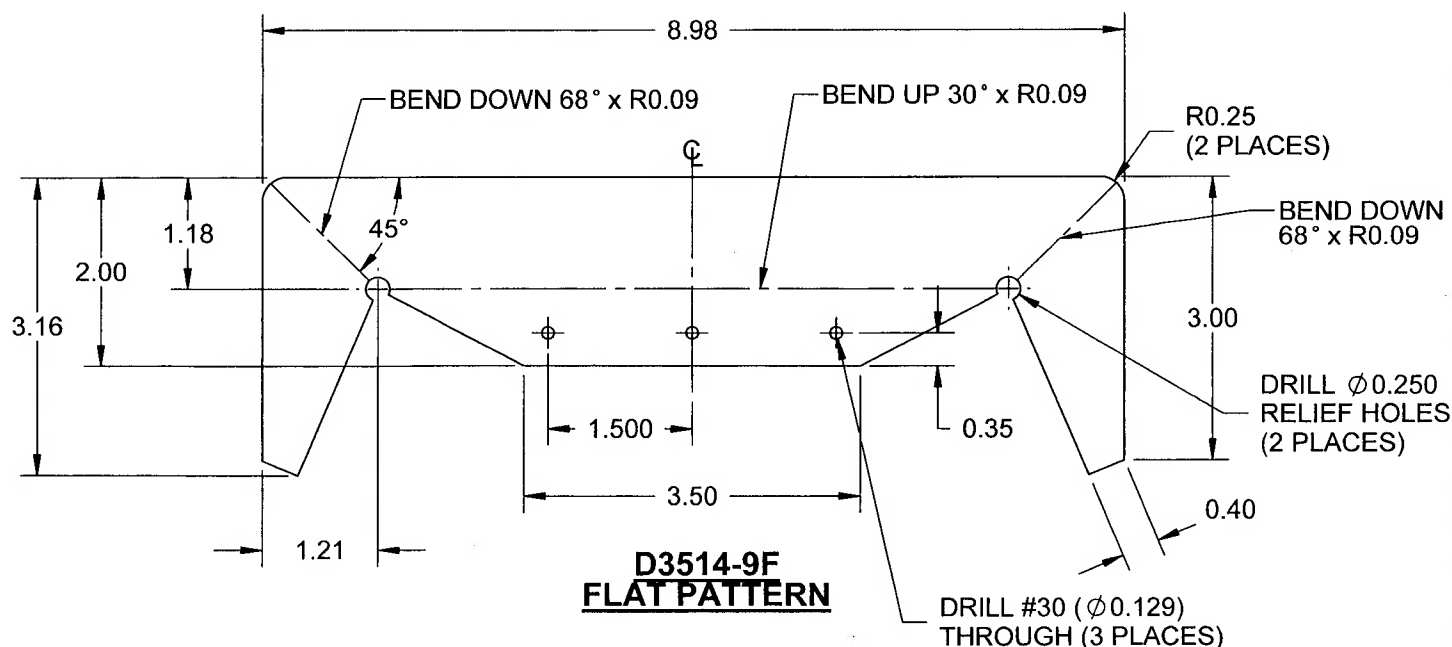
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DATE 07.01.10		TITLE GPS RECEIVER HOUSING	SCALE 1:2



UNDER REVIEW

07.05.24 CB

D3514-9
BEND DETAIL



D3514-9 HOOD

NOTES:

- 1) MATERIAL: ALUMINUM 6061-T6/T62 SHEET, 0.040 THICK PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 (REF DART SPEC M6061T6S.040)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX
- 6) PART IS SYMMETRIC ABOUT C

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DART AEROSPACE LTD		Work Order: 32536
Description: GPS Receiver Housing		Part Number: D3514-3
Inspection Dwg: D3514	Rev: Rev	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
A $\phi 0.129$	$+0.005-0.001$	0.131	✓		VERN	
B $\phi 0.144$	$+0.005-0.001$	0.146	✓		VERN	
C $\phi 0.098$	$+0.004-0.001$	0.101	✓		VERN	
D 5.500	± 0.010	5.506	✓		VERN	
E 12.00	± 0.030	12.00	✓		Measuring tape	
F 5.000	± 0.010	5.000	✓		VERN	
G 4.260	± 0.010	4.263	✓		VERN	
H 2.010	± 0.010	2.010	✓		VERN	
I 2.000	± 0.010	2.001	✓		VERN	
J 0.500	± 0.010	0.501	✓		VERN	
K 6.000	± 0.010	6.005	✓		VERN	
L 5.703	± 0.010	5.701	✓		VERN	
M 1.500	± 0.010	1.500	✓		VERN	
N 3.493	± 0.010	3.496	✓		VERN	
O R0.10	± 0.030	R0.10	✓		VERN	
P 0.218	± 0.010	0.218	✓		VERN	
Q 0.219	± 0.010	0.218	✓		VERN	
R						
S						
T						
U						
V						
W						
X						
Y						

Measured by: ML ML	Audited by: [Signature]	Prototype Approval:	N/A
Date: 010529	Date: 010529	Date:	N/A
Rev	Date	Change	Revised by
		New Issue	KJ/RF
			Approved